Commodity Spotlight

Dry Edible Beans Get A Second Glance

At a time when health concerns, convenience, and environmental issues are exerting a greater influence on consumers' food choices, dry edible beans are getting a second look—from both consumers and producers. The legumes are useful in sustainable production practices—making them attractive to farmers considering crop rotations. For consumers, dry beans offer low cost, nutritional content, versatility, and convenience.

The U.S. produces over a dozen varieties of dry edible beans, but a few favorites account for most of the U.S dry bean output—pinto (41 percent of 1989-91 output), navy beans (21 percent), Great Northern (8 percent), and red kidney (7 percent). Other varieties include large lima, baby lima, small white, pink, small red, cranberry, black, blackeye (also called cowpeas), and garbanzo (also called chickpeas).

These are the varieties for which USDA carries production statistics, but many other specialized varieties are produced in smaller quantities and included as miscellaneous output in USDA statistics. Among these are fava beans (sometimes called horse or broad beans), mung beans, adzuki beans (popular in Japan), marrow beans, appaloosa beans, Christmas limas, and anasazi (a native bean similar to pintos).

Versatile, Inexpensive, Nutritious

Relatively inexpensive, dry beans are an excellent source of vitamins, minerals, soluble dietary fiber, and protein. The leading source of vegetable protein, dry edible beans are among the best food buys in terms of cost per gram of protein. They contain no cholesterol, and research suggests that regular consumption of beans may help lower blood cholesterol levels. Dry beans are also rich in B-vitamins, iron, calcium, potassium, and phosphorous, and very low in sodium and calories.

Concern for nutrition is just one factor boosting dry bean consumption. Along with the rising popularity of restaurant chains specializing in Mexican and East Indian cuisine, interest over the past decade in ethnic foods featuring dry edible beans is also bringing beans back into the American culinary mainstream.

Dry edible bean use peaked during World War II at 11 pounds per person, then began a steady decline. Since bottoming out in the early 1980's, per capita consumption has increased 15 percent. From 1980 to 1984, dry bean use averaged 5.9 pounds per person. Over the next 5 years (1985-89), average use increased 7 percent to 6.3 pounds. The last 3 years (1990-92) saw an 8-percent gain over the 1985-89 period, to 6.8 pounds.

Dry edible beans have a wide range of uses, and some varieties can be substituted for others. All varieties are available dry in consumer or foodservice packages. Some varieties are also processed into canned products such as refried beans, soups, and baked beans. High-starch bean flour is produced from dry beans and used in a variety of baked goods. Restaurant use of dry beans and bean products appears to have increased during the past 10 years, especially among restaurants featuring dishes such as tacos, burritos, and chili. The following is a selection of uses for some of the more popular varieties:

- ***Pinto beans*** are used in making canned refried beans as well as in many dishes such as three-bean salads, soups such as minestrone, stews, rice recipes, and casseroles. About three-fourths of pintos are sold dry in bags, with the remainder canned.
- ***Navy beans*** are used primarily in making canned baked beans and navy bean soup. Roughly 90 percent of domestic navy beans are canned.
- ***Great Northern*** beans are sold mainly in dry form, and a small amount is canned. Canning of Great Northerns is more popular in France, the major U.S. export market. These beans have also been used as substitutes for navy beans.
- ***Red kidney*** beans are sold both dry and canned and are used in making chili and other Mexican dishes. Most kidney beans are canned.
- ***Black beans*** are among the most nutritious edible beans (high in protein and potassium) and are used in making soups, chili, rice dishes, and casseroles. They also can be refried.

North Dakota: First Among 29 States

In 1991, U.S. growers harvested 1.9 million acres and produced a record crop of 33 million cwt. Dry edible beans are produced in 29 states, on about 16,000 farms. Close to half of all acreage is grown under irrigation, with western states almost completely irrigated, and central and eastern states largely nonirrigated. Since the late 1960's, dry beans have not been included in price support programs. However, USDA buys various dry-bagged and canned beans for use in child nutrition and other programs each year. In fiscal 1992, USDA purchased about 18 million pounds, about

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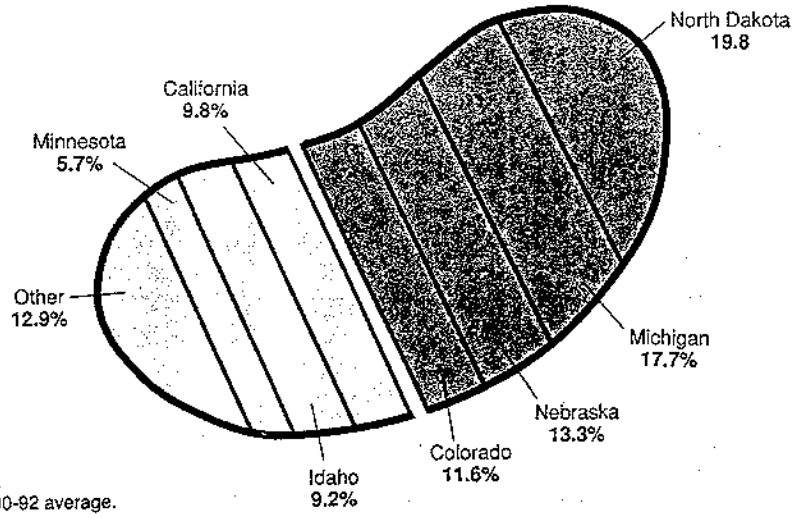
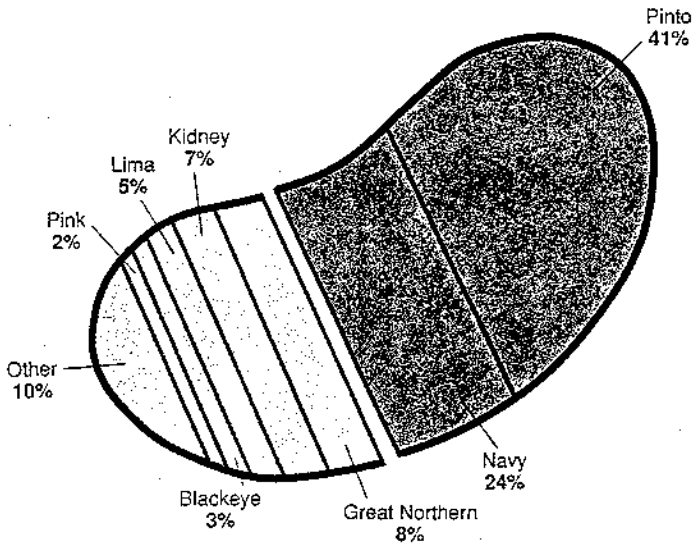
Four States Produce Over 60 Percent of U.S. Dry Bean Crop



1990-92 average.

Pinto and Navy Are the Most Popular Dry Beans



Percent of production. Data for 1991.

Total production 1991: 33 million cwt

half of 1 percent of U.S. dry bean production, for use in food programs.

New York became the birthplace of the U.S. commercial dry edible bean industry in the mid-1800's. Though now a minor dry bean producing state, New York remained the leading producer of dry beans until the early 1900's when Michigan took the lead. Michigan consistently led the nation in dry bean production until the last few years. Strong steady gains in the North Dakota bean industry propelled that state into first place in 1991, a lead the state held onto in 1992.

North Dakota's dry bean industry is relatively young—it was not firmly established until the early 1960's. In 1970, North Dakota's bean output was just 0.4 million cwt (2 percent of the U.S. crop), but with steadily increasing acreage and yields, output escalated to 7.5 million cwt by 1991, 23 percent of the nation's crop. By contrast, Michigan's crop was 6.2 million in 1991, the same as 1970.

According to the 1987 Census of Agriculture, 56 percent of North Dakota's 2,233 farms that grow dry beans harvested more than 100 acres of dry beans. Production in North Dakota is primarily concentrated among two types—pinto beans account for 62 percent of output, and navy beans 32 percent. Although it is the largest dry bean producer, North Dakota is second in production of these two varieties, producing 25 percent of the U.S. total for each.

Michigan has produced on average 18 percent of the U.S. dry bean crop during the last 3 years. It is the leading navy bean state, producing 59 percent of all the navy beans (also called pea beans) in the country. Navy beans account for about 71 percent of Michigan's bean crop, but the state also produces such varieties as black, cranberry, small white, pinto, and kidney beans. Dry beans are produced on about 4,000 Michigan farms, with the majority (70 percent) of the farms growing less than 100 acres of dry beans.

Third-ranked Nebraska produced 13 percent of the U.S. dry bean crop during 1990-92. Grown on about 1,500 farms, about 93 percent of the dry bean acreage is irrigated. Primarily a two-bean state, Nebraska produces most of the Great Northern beans grown in the U.S.—51 percent of the state's crop is Great Northern. Pinto beans make up another 42 percent of Nebraska's dry bean output.

Colorado follows Nebraska, with 12 percent of the U.S. dry bean crop. Although producing small amounts of kidney, navy, blackeye, and other beans, the state specializes in pinto beans and is the country's leading source. Over 90 percent of the beans produced in Colorado are pintos. Production takes place in two regions separated by the Rocky Mountains—the northeast area and the southwest corner of the state. Beans grown in the northeast are irrigated, and yields are much greater than for those in the southwest, which are largely produced on dry land.

Dry Beans in Sustainable Rotations

Dry edible beans offer an added benefit to producers exploring more sustainable farming practices. Grown often in rotation with other crops such as corn, wheat, barley, hay, sugar beets, and potatoes, dry beans are a legume that can help enrich nitrogen-poor soil. By hosting bacteria in root nodules, the bean plant can fix nitrogen from the air and impart it to the soil when the plant dies.

Wheat, corn, and barley are the most common crops harvested in rotation with dry beans, but the rotated crops vary by dry bean producing states:

- Michigan—corn, soybeans, and sugarbeets
- North Dakota—wheat, barley, and soybeans
- Nebraska—corn, wheat, and sugarbeets
- Colorado—corn, wheat, and alfalfa hay
- Idaho—wheat, alfalfa hay, and sugarbeets
- California—cotton, vegetables, and wheat.

California rounds out the top five, with over 900 farms producing about 10 percent of the U.S. dry bean crop. California's dry bean production is not as concentrated among varieties as most other states, having a climate favoring a wide variety of beans. Blackeye peas (actually a type of bean) account for 28 percent of California's crop, followed by baby lima (24 percent) and red kidney beans (20 percent).

Idaho produces 9 percent of U.S. dry edible beans, making the Gem State the sixth leading supplier. Idaho produces small amounts of many different types of beans but relies on pinto beans for close to half its output. Idaho is the largest producer of pink beans and small red beans. Pink beans account for 25 percent of the state's dry bean production, while small red beans make up about 12 percent of the crop. Dry beans are produced on over 2,000 fully irrigated farms, with about half of the farms raising between 25 and 100 acres of dry beans.

Export Markets Vital For Dry Beans

The U.S. ranks fourth in global dry edible bean production, accounting for about 8 percent of output. India (26 percent), Brazil (15 percent), China (11 percent), and Mexico (7 percent) are other leading dry bean producers. Among these countries, notably Brazil and Mexico, much of the production is consumed domestically, and per capita consumption is much higher than in the U.S., where exports make up about a fourth of total available supplies each year.

U.S. dry bean producers and shippers pay close attention to both domestic and international consumption trends. Because of the share exported, the international outlook is important to industry revenue. The U.S. is the second most important exporter of dry edible beans, behind China. In 1991, the U.S. ran a trade surplus in dry beans of about $195 million. In addition, the U.S. is a major exporter of dry bean seed, with 1991 exports of $44 million.

The top bean varieties exported in 1991 were pintos (27 percent of dry bean export value), navy (25 percent), Great Northern (9 percent), dark red kidney (9 percent), and baby limas (6 percent). Dry bean exports under food aid and GSM-102 export credit programs are also common and becoming more important. The U.S. imports few dry beans ($22 million in 1991), with garbanzo beans accounting for about half of all dry bean imports. Destinations are as varied as the types of beans exported in 1991:

- ***Pinto beans*** lead in export value, at $59 million, with major destinations including Algeria ($18 million), Mexico ($17 million), and Haiti ($8 million). However, Mexico is not a steady customer—significant U.S. sales depend on Mexican production shortfalls.
- ***Navy beans*** follow pintos, with sales totaling $55 million, and major shipments to the United Kingdom ($29 million) and Algeria ($14 million). The UK has long been a major market for U.S. navy beans.

Dry Beans Dip Into Export Market

1992 forecast.

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- **Great Northern beans,** with $19 million in exports, count France ($4 million) and Japan ($2 million) as major markets. Prior to the Persian Gulf conflict, Iraq was the major destination for Great Northerns.

Export markets likely hold the biggest key to significant future expansion in the U.S. dry bean industry. Although domestic demand has been increasing and will likely continue to exhibit growth over the next decade, the greatest potential lies with sales to countries that rely on dry edible beans as staple commodities. The U.S. industry is mechanized and relatively efficient, produces quality products, and is already a leader in world dry bean trade. If the industry can take advantage of these assets and continue to develop new export markets, the future looks bright for the U.S. dry bean industry.
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November Releases from USDA's Agricultural Statistics Board

The following reports are issued at 3 p.m. Eastern time on the dates shown.

November

4 Egg Products
5 Dairy Products
6 Celery (1 pm report)
Poultry Slaughter
10 Cotton Ginnings
Crop Production
13 Turkey Hatchery
16 Milk Production
17 Farm Labor
20 Cattle on Feed
Cold Storage
Livestock Slaughter
23 Catfish
Eggs, Chickens & Turkeys
25 Cotton Ginnings
30 Agricultural Prices
Peanut Stocks & Processing